

215

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SCIENCE AND FAITH.

^{Sir Thomas}
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WHEN I was asked to speak upon the subject of Science and Faith, my first impulse was to refuse, for I felt certain that anything I could say upon the subject would be certain to displease many, and be useful only to a few.

To the great mass of orthodox Christians, any difference from the opinions they hold, any doubts thrown upon the beliefs which they have held from their childhood up, must necessarily be displeasing, and to those who have completely cast aside all religious beliefs whatever, any attempt to reconcile faith and science is likely to appear futile.

To neither of these classes do I wish to speak, and what I have to say is addressed only to those who are either striving to retain their beliefs in spite of facts which may appear to be irreconcilable with them, or those who, having already lost it, are striving to regain the faith that was, in days gone by, dearer to them than life itself. It is with the hope of being useful to this comparatively small class of persons that I have accepted the invitation to speak to-day. Many differences of opinion and many bitter disputes owe their origin to the disputing parties attaching different meanings to the same word, and it is therefore advisable to begin by defining the meaning which I attach to faith and science. By doing this you will understand my meaning, even although you should not agree with my definitions or with my conclusions.

In the sense given to it by S. Paul, that faith is the evidence of things not seen, it covers a very wide ground, and applies equally to God, to the soul of man, and to the life beyond the

p 40898

grave, which are articles of Christian faith, and to the ether which pervades all space, and is an article of scientific faith; all of these are equally unseen, and belief in their existence is founded on inference. We may, I think, fairly define the difference between faith and science by saying that faith is belief untested, and science is belief tested by experiment; but science almost invariably outruns experimental tests, and of this perhaps no better example can be given than the ether which is supposed to pervade all space, and whose movements are used to explain light, heat, and electricity, although it is impossible for anyone to say that the very existence of ether has been proved. I may, perhaps, be allowed to explain the difference between faith and science by a simple illustration. You want to go from Birmingham to London, and you have been told that a train starts at seven o'clock to-night. You believe your informant, go to the station, and find that the train starts as you expected. On your way to the station you *believed*, after the train started you *knew*; that your informant was right. You had tested the belief and converted it into knowledge. You have, perhaps, to make frequent journeys to London, and for the first few times you make inquiries as to whether the train starts at seven or not. On each occasion you are told that it does; on each occasion you believe the statement, and each time you verify its correctness. You thus acquire what may be termed a scientific knowledge of the movements of that particular train to London. On this basis of scientific fact you are almost certain to build up a farther belief, namely, that the evening express not only always does start, but always will start at seven o'clock. You assume that the conditions which are present to-day always will be present, and you thus acquire a belief in the continuity of action in regard to the movements of that particular train. You know, too, that unimportant local trains are more liable to variation in their times than expresses which have long distances to travel and pass through many towns, so that any alteration in their times would cause a widespread disturbance. In the case of a local train, you would at once accept any alteration of the time given in a time-table without question, but if you saw

an alteration in the time of an express, you would look again at your time-table, and not only would you examine carefully the figures given, to see that you had made no mistake, but you would turn to the cover and examine the date of your time-table, so as to be sure that there was nothing wrong there. Your belief in the continuity of phenomena, as shown in the starting of the express, would be so great that you would criticise with great care any statement to the effect that the time had been changed. You might even go farther, and believe that the alteration was due to a printer's error.

Now the phenomena of nature are much more continuous, and of inconceivably greater importance, than the starting of a train. We all believe that the sun will rise to-morrow. It is conceivable that it might not, but it has always done so in the experience of man, and we believe that it will continue to do so. Whenever any story is told at variance with our common experience, it is almost sure to be prefaced with the words, "Long, long ago," or, "Far, far away." We find it very difficult to fancy any variation in the regular course of nature in our own times and at our own doors.

Now the same belief in continuity which we find to regard in trains and time-tables is what has, within the last fifty years, exercised such a great influence upon scientific thought and scientific views. The enormous geological changes which have taken place on the earth's surface, the upheaval of mountains, and the excavation of valleys, lakes, and river beds, which were formerly ascribed to cataclysms such as do not occur in the present day, are now regarded as due to the action of forces which are to be seen at work everywhere around us. The same idea of continuity has been applied by Darwin to the development of plants, animals, and man. Instead of believing that particles of dust heaped themselves together in an instant, so as to form the cedar and the bramble, the lion and the worm, and even man himself, full-grown and fully organised, and that each species has continued to propagate itself unchanged from the Creation till now, Darwin showed that slow changes occurring under the influence of natural selection, and such as are seen every day in the breeding of pigeons, account more readily

for the existence of the various forms of life which we find on this earth.

The great objection to the reception of this doctrine has been that it was in contradiction to the account given in the Bible, and many orthodox Christians have believed, and do believe, that the acceptance of Darwin's ideas involve the rejection of the Bible. Here it may help us again to return to the illustration of the trains. Supposing you are at a small country place, with only one train in the afternoon, you look at your time-table and find, as you think, that your train leaves at 8 p.m. You go to the station and, to your great disappointment, find that the train has left several hours before. Is your time-table, therefore, untrustworthy, and to be thrown aside as worthless, or is the railway company to be denounced as having deceived you? You look at your time-table again, and find that what you took to be an eight was a badly-printed three. You had not read your time-table aright. If you had only taken a little more care you would have found that both the railway company and the time-table were right and you alone were wrong. Two hundred years ago Galileo was tortured because he said the earth went round the sun. The statement was looked upon as completely contradictory to the Mosaic account, and indeed it really was in much greater opposition to the Biblical description of the Creation than the Darwinian hypothesis is; yet everyone, even the most orthodox, accepts the movements of the earth as an established fact, and his faith remains unshaken. We now know that the Inquisitors of two hundred years ago had simply misread their Bible, and we need not throw it aside because we accept the movements of the earth as an established fact. Nor is it necessary in the case of Darwinism. The Mosaic account of the Creation was not written for a few scientific people. It was intended for men, women, and children, and to the great bulk of these it still remains the best and most intelligible account of the beginning of the world. It is only as the intellect becomes more developed that fine distinctions can be drawn, and for uncivilised or uneducated people, or for children, things must be laid down in broad outlines and statements made in dogmatic fashion, explanations

being either not given at all or reserved until they can be understood. I will now leave the question of Darwinism, as I have already discussed it very fully in another place (*vide* "The Bible and Science"), and proceed from the question, Whence have I come? to the other, What am I?

It is obvious that the attitude we assume towards the hereditary transmission of qualities must greatly influence our views regarding the nature and responsibility of human beings, original sin and regenerative grace, freewill and predestination. It is not only in scientific works that heredity is beginning to be discussed, for one of the best expositions of it is to be found in a novel, "The Guardian Angel," by Oliver Wendell Holmes, and the most widely read of French novelists has devoted twenty volumes to illustrating the subject. According to Haeckel, the early development from primeval cell to a human being occurs before birth, and Holmes thinks that in the early years of life the child to some extent runs through the evolutionary process from the savage to the civilised being. The tendency to savage instincts which one finds in boys corresponds with the normal condition of prehistoric man, and thus the Darwinian hypothesis confirms and explains the plaint of the Psalmist, "Behold I was shapen in iniquity, and in sin did my mother conceive me." The further development of the child towards good or evil in his growth towards manhood will depend in large measure upon the influences by which he is surrounded, on the example that is set before him, and on the motives upon which he is trained to act. Slowly but surely his character becomes definitely moulded, so that in certain circumstances he is bound to do certain things, or, as S. John expresses it, "For we cannot but speak the things that we have seen and heard" (Acts iv. 20). So much is this the case that men sometimes believe themselves to be freewill agents, while they are really simply puppets dancing while somebody pulls the strings. The editor of a newspaper once told me that at some party crisis it was very important that two prominent men should act in a certain way. One was easily accessible to flattery, the other prided himself upon his independence. Shortly before the crisis an article appeared in the newspaper

saying that Number One had already rendered such important services to his party that they rested their hopes upon him, and felt sure that the enormous power at his disposal, the eloquence and influence he possessed, would not fail them in their hour of need. Number One was flattered, and did precisely as he was wanted. Another article appeared about Number Two. It said that no doubt he was a man of great power, but he was sometimes liable to be led astray, that in the present crisis if he was worth his salt he would certainly do so-and-so (the very thing he was not wished to do), that, in fact, it would be perfectly absurd to suppose that he could do anything else. Number Two's back was at once put up. He said, "I am an independent man; I have got a mind of my own; I will not be dictated to by any newspaper"; and straightway, like a pig pulled by the tail, he went forward and did precisely what he was wanted to do. This man, if he be still alive, still fancies himself a freewill agent, and the tendency of science is to show more and more that a man's acts are the result of the qualities hereditarily transmitted to him from his ancestors, of the conditions which have surrounded him during his previous life and moulded his character, and on the circumstances in which he is situated at the moment. Is this contrary to Scripture or not? No, it is precisely what we find stated by S. Paul in the ninth chapter of his Epistle to the Romans. Science fully confirms S. Paul's views with regard to predestination. But if every act of a man is predestined where does responsibility come in? Can he help himself at all? Now there are two ways of looking at predestination, the Turkish and the English. If a Turk's house goes on fire he sits down, folds his hands, says "Kismet, it is ordained," and allows the house to burn. If an Englishman's house goes on fire he sends for the fire-engine, tries to smother the flame in blankets when it commences, or pours water upon it to the best of his ability, and he puts it out if it be possible. He knows that it is ordained that his house will be burnt to the ground if the flames are allowed to rage unchecked. He does not know whether he will be able to check them or not, but he knows that if he is able to pour sufficient water upon them the flames will go out and the house

will be saved. And thus it is in every action in life. Man does not know what he is predestined to do, but he may be perfectly certain that if he does wrong he will suffer, and that if he does right it will be for his good. Again, if everything be predestined, what is the good of prayer? Its use is like that of the pitcher or wet blanket in the case of fire. It is one of the factors in the chain of events, the sequence of which we do not know, but it may have an influence in determining their course. It is evident that if we accept the doctrine of predestination it will make us much more charitable in judging others, and more careful to find out the conditions which have caused, and may be said to excuse, what we might term their sins. Thus I have known a child scolded and punished for crossness and tantrums when it was really suffering from the irritability due to unsuspected disease of the heart, and I have heard of a proposal to expel an old gentleman from a club for petty thefts which were in all probability due to slight softening of the brain.

But his hereditary tendencies and external circumstances are not at all of a man's own choosing, and if theft, robbery, irritability, anger, violence, and even murder are due to them, so that we accept this doctrine in its entirety, man is not really responsible for his actions which are predetermined, what attitude can we adopt towards criminals? Are they to be punished or not? It seems to me that if this view be accepted, we must judge criminals not as offenders against a moral law but as inconveniences to society. But if criminals, even the vilest, are not to be looked upon as offenders against a moral law, what becomes of all our idea of rewards and punishments after death? Here we tread upon most delicate ground, and even S. Paul, while strongly holding to predestination, did not explain at all clearly its bearing on the subject of future rewards and punishments. It would be both folly and presumption on my part to attempt to decide what he has left uncertain, and we must be content to say in regard to this matter, "Shall not the Judge of all the earth do aright?" But before leaving this subject I wish to say a word as to the existence of a life beyond the grave at all. We see that the dust returns to the earth as it was. Shall it be raised again, as



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S. Paul said, a new and glorious body, or is the individual for ever gone? Here science cannot help us. We must be content with faith, and even faith has a hard struggle to hold its own, for all our experience goes to show that the body once dead does not rise again, and we have only the witness of others to the effect that it may do so, and criticism of historical testimony shows that this is not always trustworthy. But even if historical criticism should tend to destroy our faith, we may fall back yet upon what lies beyond faith—hope, which is the anchor of the soul, both sure and steadfast, and, as my friend, Rev. W. Page Roberts, has pointed out, “By hope ye are saved. Just as in Pandora’s box, when everything else had gone, hope remained, so when science or even faith leave us, we may yet be saved by hope. Faith and hope are the great motive powers both of the Christian and the man of science, and if they were mixed more frequently and largely with charity, the antagonism which is at present too often supposed to exist between faith and science would tend in great measure, if not entirely, to disappear.